

## Information Technology/ Telecommunications

### Series:

**GS-2210 – Information Technology  
Management**

**GS-0391 – Telecommunications**

Department of State Information Technology Specialists manage, supervise, lead, administer, develop, deliver, support and secure information technology (IT) systems and services domestic or worldwide.

Information technology encompasses the systems and services used in the automated acquisition, storage, manipulation, management, movement, control, display, interchange, transmission, assurance, security or reception of information.

It includes computers, network components, peripheral equipment, software, firmware, services and related resources.

Within this series, there are 11 specialties for Information Technology Specialists:

**Applications Software** – Perform work that involves the design, documentation, security, development, modification, testing, installation, implementation, and support of new or existing applications software.

**Customer Support** – Perform work that involves the planning and delivery of

customer support services, including installation, configuration, troubleshooting, customer assistance, application support, and/or training, in response to customer requirements and needs.

**Data Management** – Perform work that involves the planning, development, implementation, security and administration of systems for the collection, storage and retrieval of data.

**Internet** – Perform work that involves the technical planning, design, development, testing, implementation, security, and management of Internet, intranet, and extranet activities, including systems/ applications development and technical management of Web sites.

**IT Project Management** – Perform work that involves the development and implementation of project plans for the delivery of a secure information technology product, service or system.

**Network Services** – Perform work that involves the planning, analysis, design, security, development, testing, quality assurance, configuration, installation, implementation, integration, maintenance and/or management of systems used for the transmission of data.

**Operating Systems** – Perform work that involves the planning, security, installation,

configuration, testing, implementation, and management of the systems environment.

**Policy and Planning** – Perform work that involves a wide range of IT management activities that typically extend and apply to an entire organization or major components of an organization. This includes strategic planning, capital planning and investment control, workforce planning, policy, regulations and standards development, resource management, knowledge management, architecture and infrastructure planning and management, auditing and information security management.

**Security (Infosec)** – Perform work that involves ensuring the confidentiality, integrity, and availability of systems, networks, and data through planning, analysis, development, implementation, maintenance and enhancement of information systems security programs, policies, procedures, and tools.

**Systems Administration** – Perform work that involves planning and coordinating the installation, testing, security, operation, troubleshooting, and maintenance of hardware and software systems.

**Systems Analysis** – Perform work that involves applying analytical processes to the planning, security, design and implementation of new and improved information systems.

Department of State Telecommunications Specialists perform technical and analytical work pertaining to the planning, development, acquisition, testing, integration, installation, utilization, or modification of telecommunications systems, facilities, services, and procedures for Department facilities throughout the world. They also perform managerial and staff work in the planning, implementation, or program management of telecommunications programs, systems and services or perform line supervision of communications operations.

Telecommunications systems involve the movement of information between locations and include voice, data or video communications. DoS Telecommunications Specialists are concerned with the policies, standards, engineering, design, installation and maintenance of the Department's worldwide classified and unclassified networks and IT infrastructure, wireless systems/networks and voice communications systems.

Information Technology Specialists and Telecommunications Specialists are employed in both functional and regional bureaus. Telecommunications Specialist positions are located primarily in the Washington metropolitan area; Information Technology Specialist positions are located in the Washington area, the Charleston Financial Center, the Regional Information

Management Center in Fort Lauderdale, Florida and at Passport Offices and Diplomatic Security Field Offices located throughout the United States.

### **FSI's School of Applied Information Technology**

We hope this Civil Service IT Training Continuum becomes another valuable tool for the Department's Information Technology Specialists and Telecommunications Specialists. As you review this document, please keep in mind that the Department of State is responsible for ensuring that the U.S. Government and its diplomatic structure are informed quickly, securely and accurately about world events. This includes the collection, interpretation, and dissemination of information requiring high quality information technology systems and appropriately trained personnel to sustain and use it.

To that end, the Foreign Service Institute's School of Applied Information Technology (SAIT) is the lead organization supporting the Department's goal to have a fully trained and productive "IT" workforce that is in "lock step" with the Department's strategic vision for the use of Information Technology. It is important for our IT professionals to know that SAIT's training strategy is reflected in this document and aligned with the technology trends identified in the Department's IT Strategic Plan.

In terms of quality and performance, SAIT continues to concentrate on curriculum that culminates in the completion of a recognized industry standard "IT" certification process. We aggressively maintain the "Certified Technical Education Centers" status for our training facilities and have expanded the number of SAIT instructors certified to teach SAIT courses; the goal being to continue to have highly qualified instructors deliver proven curriculum in a certified facility with industry exams as a student performance measure. Students can count on a quality training experience due to this approach.

### **Professional Skills Program (PSP) for Information Technology Personnel**

In October 1999, the Department launched a pilot program, aimed at retaining DoS employees with critical IT skills and at increasing the expertise and stability of the IT workforce. This is accomplished through financial recognition for formal certification in certain technical areas. The IT Professional Skills Advisory Committee, headed by the Dean, FSI/SAIT, provides oversight responsibility for the program.

Retention allowances are paid to Civil Service IT employees under Title 5 CFR 575.305. Allowances are paid at the rate of 5%, 10% or 15% depending upon the educational and/or IT certifications submitted to the IT Professional Skills Panel.

The Panel determines eligibility and rate of incentive to be paid based upon the documentation submitted. The U.S. Office of Personnel Management (OPM) provides Federal oversight of all retention allowances under Title 5.

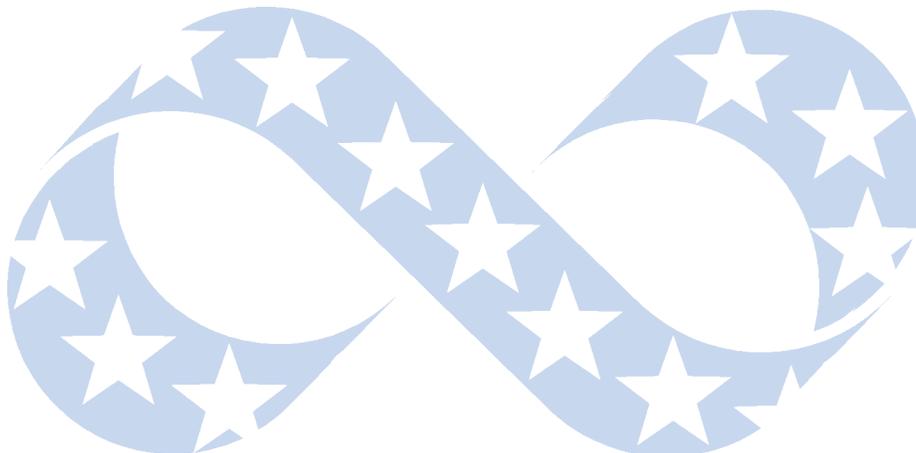
For information on eligibility, education and/or IT certifications currently included in the program, SIP allowances, and to apply for the retention allowance, go the School of Applied Information Technology website at <http://fsi.state.gov/fsi/sait/default.asp>.

Many of the courses and exams for certifications eligible for skills incentive pay may be taken through FSI's FasTrac distance learning Thompson NetG or SkillSoft IT courseware. To view the course catalog or to enroll, go to <http://fsi.state.gov/fastrac> on the OpenNet and click on "Enroll Now." If you have questions about the certifications and courses, please contact the School of

Applied Information Technology at (703) 302-3759.

SAIT Prerequisites: The CompTIA A+ course and successful passage of the certification exam is necessary before any other course or exam may be taken through SAIT. Students may then take any other course or certification exam listed on the training continuum, except for Microsoft Exchange (5.5 or 2000) which requires the completion of the MS 2000 Server course and passage of the exam as a prerequisite. Employees who plan to take The Security Seminar, Certified Information System Security Professional (CISSP) given at WTC, should contact WTC to determine if they have the required experience.

Below is a listing of the currently available courses and exams. Please note that this information is subject to change.



Thompson NetG*	SkillSoftIT*
	<p><b>Certified Information System Security Professional (CISSP)</b></p> <p>CISSP Exam                      69822_1 Information System Security                      70443 Security Management and Operations Security Practices                      70446 Access Control and Physical Security                      70447 Cryptography and Network Security                      70448 Security Architecture and Applications Security</p>
<p><b>Cisco Certified Design Associate (CCDA)</b></p> <p><b>Routing and Switching</b>                      20011D CCDA Certification Curriculum Bundle                      20011-20014 Internetworking Technologies (IT 2.0) Parts 1-4</p> <p>20051D Exam 640-441 Designing Cisco Networks Curriculum Bundle                      Cisco Designing Networks:                      20051 Internetworking Analysis                      20052 Designing a Network Structure                      20053 Designing a Prototype</p>	
<p><b>Cisco Certified Network Associate 2.0 (CCNA)</b></p> <p>20011D CCNA 2.0 Track – Routing and Switching Curriculum Bundle                      20011-20014 Networking Technologies (IT 2.0) Parts 1-4</p> <p>20021D CCNA 2.0 Exam – 640-607 NETg Curriculum Bundle                      Cisco Interconnecting Network Devices:                      20021 Establishing Workgroups                      20122 Configuring Switches                      20023 Configuring Routers                      20024 Connecting to WANs</p>	<p><b>Certified Cisco Network Administrator (CCNA)</b></p> <p>Exam 640-607 Certified Cisco Network Associate                      64161_1 Cisco Certified Network Administrator Basics (CCNA)                      38687_1 Interconnecting Cisco Network Devices (ICND)</p>
<p><b>Cisco Certified Network Professional 2.0 (CCNP)</b></p> <p><b>Routing and Switching</b>                      Note: CCNA 2.0 certification is a prerequisite for CCNP certification</p> <p>20411D Routing Exam 640-603 Curriculum Bundle Building Scalable Cisco Networks:                      20411 Advanced Routing Principles                      20412 OSPF</p>	<p><b>Certified Cisco Network Professional (CCNP)</b></p> <p>Exam 640-604 Cisco Certified Network Professional                      59047_1 Building Cisco Multi-layer Switched Networks (BCMSN)</p> <p>Exam 640-605 Cisco Certified Network Professional                      33830_1 Building Cisco Remote Access Networks (BCRAN)</p>

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<p>20413 EIGRP 20415 BGP 20415 Optimizing Routing</p> <p>20321D Switching Exam 640-604 Curriculum Bundle Cisco Building Multilayer Switched Networks</p> <p>20321 Campus Networks 20322 VLANs 20323 Multilayer Switching 20324 HSRP and Multicast 20325 Controlling Access</p> <p>20331D Remote Access Exam 640-605 Curriculum Bundle 20331-20335 Building Cisco Remote Access Networks Parts 1-5</p> <p>20341D Support Exam 640-606 Curriculum Bundle 20341-20345 Cisco Internetwork Troubleshooting: Parts 1-5</p>	<p>Exam 640-606 Cisco Certified Network Professional 39023_1 Cisco Internetwork Troubleshooting (CIT)</p> <p>Exam 650-901 Cisco Certified Network Professional 69415_1 Building Scalable Cisco Internetworks (BSCI)</p>
<p><b>CompTIA A+ Certification</b></p> <p>13838DA+ Certification Exams 220-221 &amp; 220-222 Curriculum Bundle</p> <p>13838 Hardware Fundamentals 13839 Hardware Installation &amp; Configuration 13840 Motherboards, Processors, Memory &amp; Printers 13841 Operating System Fundamentals 13842 Operating System Installation &amp; Configuration 13843 Troubleshooting &amp; Preventive Maintenance 13844 Network Fundamentals</p>	<p><b>CompTIA A+ Certification</b></p> <p>Exam 220-221 A+ Certification 31465_1 A+ Core Hardware AND Exam 220-222 A+ Operating System Technology 38602_1 A+ Operating System Technologies</p>
	<p><b>CompTIA iNet+ Certification</b></p> <p>Exam IKO-002 Network+ 31451_1 iNet+</p>
<p><b>CompTIA Network+ Certification</b></p> <p>14181D CompTIA Network+ Exam N10-003 Curriculum Bundle</p> <p>14181 Media and Topologies 14182 Protocols and Standards 14183 Network Implementation</p>	<p><b>CompTIA Network+ Certification</b></p> <p>Exam N10-003 6572_1 Network+ Introduction to Internetworking OSI Lower Layers OSI Layers 3 OSI Upper Layers Operating Systems and TCP/IP Remote Access and Network Security Fault Tolerance &amp; Troubleshooting Networks</p>

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<p><b>CompTIA Server+ Certification</b></p> <p>14149D CompTIA Server+ Exam SKO-001 Curriculum Bundle</p> <p>14149 Installation and Configuration</p> <p>14150 Upgrading</p> <p>14151 Troubleshooting &amp; Problem Determination</p> <p>14152 Proactive Maintenance &amp; Disaster Recovery</p>	
<p><b>MS Certified Systems Engineer (MSCE) Certification for Windows Server 2003</b></p> <p>Core Exams: Networking Systems – Four Required:</p> <p>Exam 70-290 Managing and Maintaining a Microsoft Windows Server 2003 Environment</p> <p>73313 Part 1</p> <p>73314 Part 2</p> <p>73315 Part 3</p> <p>Exam 70-291 Implementing, Managing and Maintaining a Microsoft Windows Server 2003 Network Infrastructure</p> <p>73310 Part 1</p> <p>73311 Part 2</p> <p>73312 Part 3</p> <p>Exam 70-293 Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure</p> <p>73316 Part 1</p> <p>73317 Part 2</p> <p>73318 Part 3</p> <p>73319 Part 4</p> <p>Exam 70-294 Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure</p> <p>73320 Part 1</p> <p>73321 Part 2</p> <p>73322 Part 3</p> <p>Core Exam: Client Operating Systems – One Required</p> <p>70-210 Installing, Configuring, and Administering Microsoft Windows 2000 Professional</p> <p>72410 User Accounts</p> <p>72411 Groups and Resource Management</p> <p>72412 Computer Management</p> <p>72413 Installation</p>	<p><b>MSCE Windows Server 2003 Track</b></p> <p>Note: If you have the MSCE Windows 2000 certification, you should take the MSCE Windows 2003 Upgrade Certification (see below)</p> <p>Exam 70-086 Implementing and Supporting Microsoft Systems Management Server 2.0</p> <p>MSM01SE Overview</p> <p>MSM02SE Installing a Site</p> <p>MSM03SE Multiple Site Configuration</p> <p>MSM04SE Software Distribution and Metering</p> <p>MSM05SE Hardware and Software Inventory</p> <p>MSM06SE Querying and Reporting Data</p> <p>MSM07SE The Status System</p> <p>MSM08SE Network and Diagnostic Tools</p> <p>TP70086 Test Preparation</p> <p>Exam 70-210 Installing, Configuring, and Administering Microsoft Windows 2000 Professional</p> <p>115193 Getting Started</p> <p>115203 Up and Running</p> <p>112593 New Features and Architecture</p> <p>112681 Installation</p> <p>112790 Administration</p> <p>112804 Users</p> <p>112818 Groups and Terminal Services</p> <p>112836 Files and Folders</p> <p>112876 Advanced File and Folder Management</p> <p>112893 Hardware Configuration and Optimization</p> <p>112987 Storage and Printing</p> <p>113251 Events</p> <p>113373 Backup and Recovery</p> <p>113410 Group Policy</p> <p>113467 Network Protocols and Remote Access</p> <p>TP70210 Test Preparation</p> <p>Exam 70-227 Installing, Configuring, and Administering Microsoft Internet Security and Acceleration (ISA) 2000 , Enterprise Edition</p>

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<p>72414 File System and Hardware Configuration 72415 Resource Optimization 72416 Enterprise Administration 72417 Network Implementation 72418 Server Optimization 72419 Enterprise Networking 72420 Security Considerations</p> <p>Exam 70-270 Installing, Configuring and Administering Microsoft Windows XP Professional 72510 Part 1: Installation and Configuration 72511 Part 2: Networks and Desktops 72512: Part 3: TCP/IP and NOS Environments 72513 Part 4: Remote and Mobile Computing 72514 Part 5: Disk and File Management</p> <p>Core Exam : Design – One Required</p> <p>Exam 70-297 Designing a Microsoft Windows Server 2003 Active Directory and Network Infrastructure No NETg courseware to be developed</p> <p>Exam 70-298: Designing Security for a Microsoft Windows Server 2003 Network NETg Courseware to be developed and available in Q2</p> <p>Elective Exams – One Required Below are the exams for which NETg either has content or active plans to develop content. They will add exams to this list as they finalize development plans.</p> <p>Exam 70-229: Designing and Implementing Databases with Microsoft SQL Server 2000 Enterprise Edition 73480 Part 1: Introduction to SQL Server 73481 Part 2: Managing Data 73482 Part 3: Managing Objects 73483 Part 4: Managing Indexes 73484: Part 5: Distributed Data and Locks</p> <p>Exam 70-228: Installing, Configuring, and Administering Microsoft SQL Server 2000 Enterprise Edition Microsoft SQL Server 2000 Database Administration: 73475 Part 1: Installing SQL Server 2000 73476 Part 2: Managing Databases 73477 Part 3: Security and Data Recovery 73478 Part 4: Managing Data 73479 Part 5: Maintaining SQL Server 2000</p>	<p>37403 Installation of ISA Server 2000 37408 Access Policies, Caching, and VPNS in Microsoft ISA Server 2000 37413 Firewalls and Access to Internal Resources with Microsoft ISA Server 2000 37418 Monitoring, Reporting, and ISA Server Enterprise Edition TP70227 Test Preparation</p> <p>Exam 70-228 Installing, Configuring, and Administering Microsoft SQL Server 2000 Enterprise Edition 31478 Overview 31489 Installing, Configuring, and Upgrading 31493 Databases 31496 Transferring and Transforming Data 31499 Security 31552 Managing Databases 31556 Backing up Databases 31560 Restoring Databases 31563 Replication 31566 Monitoring Performance 31569 High Availability 31571 XML and the Web TP70228 Test Preparation</p> <p>Exam 70-229 Designing and Implementing Databases with Microsoft SQL Server 2000 Enterprise Edition 31478 Overview 31493 Databases 31898 Designing and Implementing Security 31901 Logical Data Model 31905 Using T-SQL 31910 Indexes 31913 Programming Business Logic 31917 Transactions and Distributed Data 31920 Analyzing and Optimizing Queries 31496 Transferring and Transforming Data 31571 XML and the Web TP70229 Test Preparation</p> <p>Exam 70-232 Implementing and Maintaining Highly Available Web Solutions with Microsoft Windows 2000 Server Technologies and Microsoft Application Center 2000 66872 Features, Deployment, and Installation 66886 High-Availability Concepts and Monitoring 67068 Configuring and Managing</p>

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<p>Exam 70-227: Installing, Configuring, and Administering Microsoft Internet Security and Acceleration (ISA) Server 2000, Enterprise Edition                      74110 Part 1: Setup and Access Policies                      74111 Part 2: Enterprise Deployment Considerations</p> <p>Alternative to the electives listed above: CompTIA Security+ Certificate</p>	<p>Exam 70-270 Installing, Configuring, and Administering Microsoft Windows XP Professional                      113628 Installing                      113687 Managing Files, Folders, and Devices                      113713 System Reliability and the Desktop                      113736 Networking Protocols and Services                      113758 Backup and Security Settings                      TP70270 Test Preparation</p> <p>Exam 70-284 Implementing and Managing Microsoft Exchange Server 2003                      131361 Installation                      131363 Upgrades and Migration                      13164 Configuration for Exchange and Foreign Messaging Systems                      131365 Recipients, User Objects, Groups, and Address Lists                      13166 Core Component Management                      131367 Computer Management                      131368 Security Implementation                      131719 Configuration for Management                      TP70284 Test Preparation</p> <p>Exam 70-285 Designing a Microsoft Exchange Server 2003 Organization                      206379 Designing and Planning Deployment                      206380 Planning for Active Directory and Designing a Messaging Infrastructure                      206381 Designing Data Management and Fault Tolerance                      206382 Designing Server and Client Connectivity                      206383 Planning Security                      TP70285 Test Preparation</p> <p>Exam 70-290 Managing and Maintaining a Microsoft Windows Server 2003 Environment                      124011 Basic Concepts                      123546 Managing Users, Groups, and Computers                      123572 Managing Resource Access                      123582 Managing Hardware, Disks, and Logical Devices                      123605 Managing the Server Environment                      123583 Managing Disaster Recovery                      TP70290 Test Preparation</p> <p>Exam 70-291 Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure</p>

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	<p>125865 Implementing, Managing, and Maintaining TCP/IP</p> <p>126071 Implementing, Managing, and Maintaining DHCP</p> <p>125926 Implementing, Managing, and Maintaining Name Resolution</p> <p>125927 Implementing, Managing, and Maintaining Network Security</p> <p>125928 Implementing, Managing, and Maintaining Remote Access</p> <p>126092 Implementing, Managing, and Maintaining Routing</p> <p>125929 Maintaining a Network Infrastructure</p> <p>TP70291 Test Preparation</p> <p>Exam 70-293 Planning and Maintaining a Microsoft Windows Server 2003 Network Infrastructure</p> <p>127946 Planning the Network Infrastructure</p> <p>127959 Planning for Name Resolution</p> <p>127971 Implementing Routing and Remote Access</p> <p>128023 Planning for Network Availability</p> <p>128052 Planning Server Roles and Server Security</p> <p>128064 Planning a Security Infrastructure</p> <p>TP70293 Test Preparation</p> <p>Exam 70-294 Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure</p> <p>126360 Planning and Implementing an Active Directory Infrastructure</p> <p>126378 Planning Active Directory Services</p> <p>126379 Active Directory Sites, Replication, and Trusts</p> <p>126380 Implementing Active Directory Users and Groups</p> <p>126381 Planning and Implementing Group Policy</p> <p>130201 Configuring and Troubleshooting Group Policy</p> <p>TP70294 Test Preparation</p> <p>Exam 70-297 Designing a Microsoft Windows Server 2003 Active Directory and Network Infrastructure</p> <p>115388 Designing the Infrastructure</p> <p>115395 Creating the Design</p> <p>116156 The Network Services Infrastructure Conceptual and Logical Design</p>

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	<p>116411 Designing RAS Services for the Network Infrastructure                      116122 Network Infrastructure and Active Directory Physical Design                      116412 Network Infrastructure Physical Design II                      TP70297 Test Preparation</p> <p>Exam 70-298 Designing Security for a Microsoft Windows Server 2003 Network                      201375 Security Basics                      201402 Logical Network Security                      201405 Securing Clients                      201403 Physical Network Security                      201404 Securing Data and Server Roles                      201412 IIS Security and Firewalls                      TP70298 Test Preparation</p> <p>Exam 70-299 Implementing and Administering Security in a Microsoft Windows Server 2003 Network                      209128 Managing System Security                      209131 Securing Access to Resources                      209129 Wireless and Remote Communications                      209130 Managing IPSEC                      209132 Managing Certificates                      TP70299 Test Preparation</p>
	<p><b>MSCE Windows Server 2003 Upgrade</b></p> <p>Exam 70-292 Managing and Maintaining a Microsoft Windows Server 2003 Environment for an MCSA Certified on Windows 2000                      117907 Getting Started                      117933 Systems Administration                      117979 Managing Internet Services                      119303 Terminal Services and System Recovery                      TP70292 Test Preparation</p> <p>Exam 70-296 Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Environment for an MSCE Certified on Windows 2000                      11982 Planning, Implementing, and Maintaining Network Infrastructure                      119912 Network Infrastructure and Topologies for Windows 2003 Enterprise Networks                      119924 Designing and Managing Internet Connectivity in Windows 2003                      119934 Planning and Designing An Active Directory</p>

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	<p>Infrastructure            119947 Implementing and Supporting Active Directory Infrastructure            119958 Planning, Implementing and Maintaining User, Computer and Group Policies and Strategies            119968 Planning and Designing a Security Infrastructure            TP70296 Test Preparation</p>
<p><b>Microsoft Certified Systems Administrator (MCSA) Certification for Windows Server 2003</b></p> <p>Core Exams: Networking Systems – Two Required</p> <p>Exam 70-290 Managing and Maintaining a Microsoft Windows Server 2003 Environment            73313 Part 1            73314 Part 2            73315 Part 3</p> <p>Exam 70-291 Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure            73310 Part 1            73311 Part 2            73312 Part 3</p> <p>Core Exam: Client Operating Systems – One Required</p> <p>Exam 70-210: Installing, Configuring, and Administering Microsoft Windows 2000 Professional            72410 User Accounts            72411 Groups and Resource Management            72412 Computer Management            72413 Installation            72414 File Systems and Hardware Configuration            72415 Resource Optimization            72416 Enterprise Administration            72417 Network Implementation            72418 Server Optimization            72419 Enterprise Networking            72420 Security Considerations</p> <p>Exam 70-270: Installing, Configuring and Administering Microsoft Windows XP Professional            72510 Part 1: Installation and Configuration            72511 Part 2: Networks and Desktops</p>	<p><b>MCSA on Windows Server 2003 Track</b></p> <p>Note: If you have the MCSA Windows Server 2000 certification, you should take the MCSA Windows 2003 Upgrade Certification (see below)</p> <p>Exam 70-086 Implementing and Supporting Microsoft Systems Management Server 2.0            MSM01SE Overview            MSM02SE Installing a Site            MSM03SE Multiple Site Configuration            MSM04SE Software Distribution and Metering            MSM05SE Hardware and Software Inventory            MSM06SE Querying and Reporting Data            MSM07SE The Status System            MSM08SE Network and Diagnostic Tools            TP70086 Test Preparation</p> <p>Exam 70-210 Installing, Configuring and Administering Microsoft Windows 2000 Professional            115193 Getting Started            115203 Up and Running            112593 New Features and Architecture            112681 Installation            112790 Administration            112804 Users            112818 Groups and Terminal Services            112836 Files and Folders            112876 Advanced File and Folder Management            112893 Hardware Configuration and Optimization            112987 Storage and Printing            113251 Events            113373 Backup and Recovery            113410 Group Policy            113467 Network Protocols and Remote Access            TP70210 Test Preparation</p>

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<p>72512 Part 3: TCP/IP and NOS Environments                      72513 Part 4: Remote and Mobile Computing                      72514 Part 5: Disk and File Management</p> <p>Elective Exam: One Required</p> <p>Below are the exams for which NETg either has content or active plans to develop content. They will add exams to this list as they finalize development plans.</p> <p>Exam 70-228: Installing, Configuring and Administering Microsoft SQL Server 2000 Enterprise Edition                      73475 Part 1: Installing SQL Server 2000                      73476 Part 2: Managing Databases                      73477 Part 3: Security and Data Recovery                      73478 Part 4: Managing Data                      73479 Part 5: Maintaining SQL Server 2000</p> <p>Exam 70-227: Installing, Configuring, and Administering Microsoft Internet Security and Acceleration (ISA) Server 2000, Enterprise Edition                      74110 Part 1: Setup and Access Policies                      74111 Part 2: Enterprise Deployment Considerations</p> <p>Alternate to the Elective Listed Above:                      CompTIAA+ and CompTIA Network+ Certificates                      OR                      CompTIAA+ and CompTIA Server+ Certificates                      OR                      CompTIA Security+ Certificate</p>	<p>Exam 70-227 Installing, Configuring, and Administering Microsoft Internet Security and Acceleration (ISA) 2000, Enterprise Edition                      37403 Installation of ISA Server 2000                      37408 Access Policies, Caching, and VPNS in Microsoft ISA Server 2000                      37413 Firewalls and Access to Internal Resources with Microsoft ISA Server 2000                      37418 Monitoring, Reporting, and ISA Server Enterprise Edition                      TP70227 Test Preparation</p> <p>Exam 70-228 Installing, Configuring, and Administering Microsoft SQL Server 2000 Enterprise Edition                      31478 Overview                      31489 Installing, Configuring, and Upgrading 31493 Databases                      31496 Transferring and Transforming Data                      31499 Security                      31552 Managing Databases                      31556 Backing up Databases                      31560 Restoring Databases                      31563 Replication                      31566 Monitoring Performance                      31569 High Availability                      31571 XML and the Web                      TP70228 Test Preparation</p> <p>Exam 70-270 Installing, Configuring, and Administering Microsoft Windows XP Professional                      113628 Installing                      113687 Managing Files, Folders, and Devices                      113713 System Reliability and the Desktop                      113736 Networking Protocols and Services                      113758 Backup and Security Setting                      TP70270 Test Preparation</p> <p>Exam 70-284 Implementing and Managing Microsoft Exchange Server 2003                      131361 Installation                      131363 Upgrades and Migration                      131364 Configuration for Exchange and Foreign Messaging Systems                      131719 Configuration for Management                      131365 Recipients, User Objects, Groups, and Address Lists                      131366 Core Component Management</p>

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	<p>131367 Computer Management 131368 Security Implementation TP70284 Test Preparation</p> <p>Exam 70-290 Managing and Maintaining a Microsoft Windows Server 2003 Environment 124011 Basic Concepts 123546 Managing Users, Groups, and Computers 123572 Managing Resource Access 123582 Managing Hardware, Disks, and Logical Devices 123605 Managing the Server Environment 123583 Managing Disaster Recovery TP70290 Test Preparation</p> <p>Exam 70-291 Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure 125865 Implementing, Managing, and Maintaining TCP/IP 126071 Implementing, Managing, and Maintaining DHCP 125926 Implementing, Managing, and Maintaining Name Resolution 125927 Implementing, Managing, and Maintaining Network Security 125928 Implementing, Managing, and Maintaining Remote Access 126092 Implementing, Managing, and Maintaining Routing 125929 Maintaining a Network Infrastructure TP70291 Test Preparation</p> <p>Exam 70-299 Implementing and Administering Security in a Microsoft Windows Server 2003 Network 209128 Managing System Security 209131 Securing Access to Resources 209129 Securing Wireless and Remote Communications 209130 Managing IPSEC 209132 Managing Certificates TP70299 Test Preparation</p>

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	<p><b>MCSA Windows Server 2003 Upgrade</b></p> <p>Exam 70-292 Managing and Maintaining a Microsoft Windows Server 2003 Environment for an MCSA Certified on Windows 2000</p> <p>117907 Getting Started</p> <p>117933 Systems Administration</p> <p>117979 Managing Internet Services</p> <p>119303 Terminal Services and System Recovery</p> <p>TP70292 Test Preparation</p>

\* For additional information on Thompson NetG IT certifications, including prerequisites and experience requirements, visit: [http://www.netg.com/certification\\_CMS/](http://www.netg.com/certification_CMS/)

\*\* For additional information on SkillSoft IT certifications, including prerequisites and experience requirements, visit: [http://www.skillsoft.com/solutions/it\\_certification.asp](http://www.skillsoft.com/solutions/it_certification.asp)

## Technical Competencies

The Federal Chief Information Officers' (CIO) Council has identified the following specific technical competencies to assist employees and managers in determining competency levels and staff development needs.

**Accessibility** – Knowledge of tools, equipment, and technologies used to help individuals with disabilities use computer equipment and software

**Business Process Reengineering** – Knowledge of methods, metrics, tools and techniques of Business Process Reengineering

**Capacity Management** – Knowledge of the principles and methods for monitoring, estimating, or reporting actual performance or the performance capability of information systems or components

### Capital Planning and Investment

**Assessment** – Knowledge of the principles and methods of capital investment analysis of business case analysis, including return on investment analysis

**Computer Forensics** – Knowledge of tools and techniques used in data recovery and preservation of electronic evidence

**Computer Languages** – Knowledge of computer languages and their applications

to enable a system to perform specific functions

**Computers and Electronics** – Knowledge of electric circuit boards, processors, chips, and computer hardware and software, including applications and programming

**Configuration Management** – Knowledge of the principles and methods for planning or managing the implementation, update, or integration of information systems components

**Contracting/Procurement** – Knowledge of various types of contracts, techniques for contracting or procurement, and contract negotiation and administration

**Cost-Benefit Analysis** – Knowledge of the principles and methods of cost-benefit analysis, including the time value of money, present value concepts, and quantifying tangible and intangible benefits

**Customer Service** – Works with clients and customers to assess their needs, provide information or assistance, resolve their problems, or satisfy their expectations; knows about available products and services; is committed to providing quality products and services

**Data Management** – Knowledge of the principles, procedures, and tools of data management, such as modeling techniques,

data backup, data recovery, data dictionaries, data warehousing, data mining, data disposal, and data standardization processes

**Database Administration** – Knowledge of the principles, methods, and tools for automating, developing, implementing or administering database systems

**Database Management Systems** – Knowledge of the uses of database management systems and software to control the organization, storage, retrieval, security, and integrity of data

**Distributed Systems** – Knowledge of the principles, theoretical concepts, and tools underlying distributed computing systems, including their associated components and communication standards

**Electronic Commerce (e-Commerce)** – Knowledge of the principles, methods, and tools for conducting business online, including electronic data interchange

**Encryption** – Knowledge of procedures, tools, and applications used to keep data or information secure, including public key infrastructure, point-to-point encryption, and smart cards

**Hardware** – Knowledge of specifications, uses, and types of computer or computer-related equipment

**Human Factors** – Knowledge of the principles, methods, and tools used to identify and apply information about human behavior, abilities, limitations, and other characteristics to the design of tools, machines, systems, tasks, jobs, and environments for effective human use

**Information Assurance** – Knowledge of methods and procedures to protect information systems and data by ensuring their availability, authentication, confidentiality and integrity

**Information Resources Strategy and Planning** – Knowledge of the principles, methods, and techniques of information technology (IT) assessment, planning, management, monitoring and evaluation, such as IT baseline assessment, inter-agency functional analysis, contingency planning, and disaster recovery

**Information Systems Security Certification** – Knowledge of the principles, methods, and tools for evaluating information systems security features against a set of specified security requirements. Includes developing security certification and accreditation plans and procedures, documenting deficiencies, reporting corrective actions, and recommending changes to improve the security of information systems.

**Information Systems/Network Security**

– Knowledge of methods, tools, and procedures, including development of information security plans, to prevent information systems vulnerabilities, and provide or restore security of information systems and network services

**Information Technology Architecture**

– Knowledge of architectural methodologies used in the design and development of information systems, including the physical structure of system's international operations and interactions with other systems

**Information Technology Performance**

**Assessment** – Knowledge of the principles, methods, and tools (for example, surveys, system performance measures) to assess the effectiveness and practicality of information technology systems

**Infrastructure Design**

– Knowledge of the architecture and typology of software, hardware, and networks, including LANS, WANS, and telecommunications systems, their components and associated protocols and standards, and how they operate and integrate with one another and with associated controlling software

**Knowledge Management**

– Knowledge of the value of collected information and the methods of sharing that information throughout an organization

**Modeling and Simulation**

– Knowledge of mathematical modeling and simulation tools and techniques to plan and conduct test and evaluation programs, characterize systems support decisions involving requirements, evaluate design alternatives, or support operational preparation

**Multimedia Technologies**

– Knowledge of the principles, methods, tools, and techniques of developing or applying technology using text, audio, graphics, or other media

**Network Management**

– Knowledge of the operation, management, and maintenance of network and telecommunication systems and linked systems and peripherals

**Object Technology**

– Knowledge of the principles, methods, tools, and techniques that use object-oriented languages, analysis, and design methodologies

**Operating Systems**

– Knowledge of computer network, desktop, and mainframe operating systems and their applications

**Operations Support**

– Knowledge of procedures to ensure production or delivery of products and services, including tools and mechanisms for distributing new or enhanced software

**Product Evaluation**

– Knowledge of methods for researching and analyzing

external products to determine their potential for meeting organizational standards and business needs

**Project Management** – Knowledge of the principles, methods, or tools for developing, scheduling, coordinating, and managing projects and resources, including monitoring and inspecting costs, work and contractor performance

**Quality Assurance** – Knowledge of the principles, methods, and tools of quality assurance and quality control used to ensure a product fulfills functional requirements and standards

**Requirements Analysis** – Knowledge of the principles and methods to identify, analyze, specify, design, and manage functional and infrastructure requirements; includes translating functional requirements into technical requirements used for logical design or presenting alternative technologies or approaches.

**Risk Management** – Knowledge of methods and tools used for risk assessment and mitigation of risk

**Software Development** – Knowledge of the principles, methods, and tools for designing, developing and testing software in a given environment

**Software Engineering** – Knowledge of software engineering design and development methodologies, paradigms, and tools; the software life cycle; software reusability; and software reliability metrics

**Software Testing and Evaluation** – Knowledge of the principles, methods, and tools for analyzing and developing software test and evaluation procedures

**Standards** – Knowledge of standards that either are compliant with or derived from established standards or guidelines

**System Testing and Evaluation** – Knowledge of the principles, methods, and tools for analyzing and developing systems test and evaluation procedures and technical characteristics of IT systems, including identifying critical operational issues

**System Integration** – Knowledge of the principles, methods, and procedures for installing, integrating, and optimizing information systems components

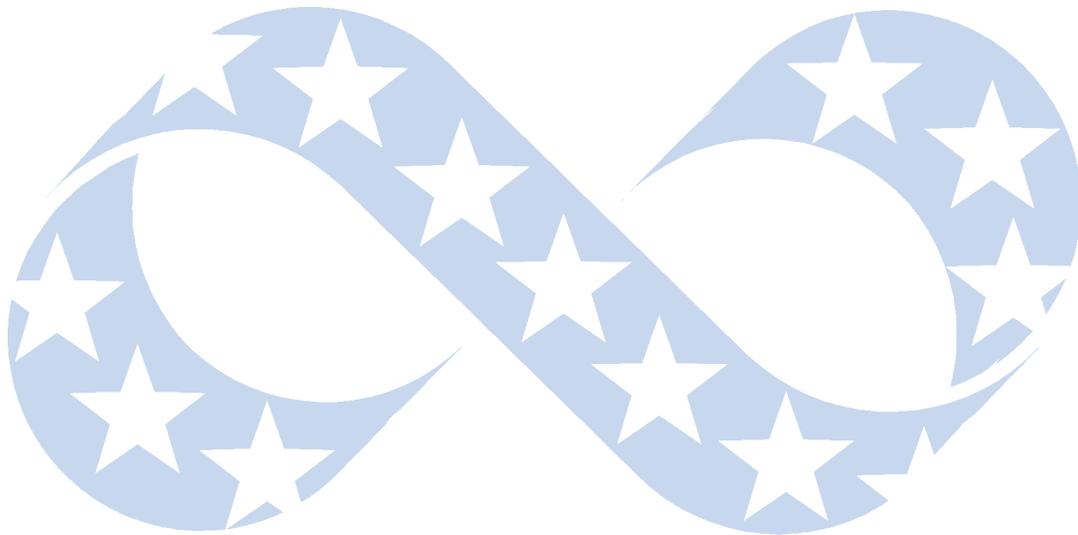
**Systems Life Cycle** – Knowledge of systems life cycle management concepts used to plan, develop, implement, operate, and maintain information systems

**Technical Documentation** – Knowledge of procedures for developing technical and operational support documentation

**Technology Awareness** – Knowledge of developments and new applications of information technology (hardware, software, telecommunications), emerging technologies and their applications to business processes, and applications and implementation of information systems to meet organizational requirements

**Telecommunications** – Knowledge of transmissions, broadcasting, switching, control, and operation of telecommunications systems

**Web Technology** – Knowledge of the principles and methods of web technologies, tools, and delivery systems, including web security, privacy policy practices, and user interface issues



## Information Technology/ Telecommunications: Basic Level

At the basic level, education and training is designed to establish fundamental qualifications and expertise in an individual's job series or career field.

Your development at this level establishes the foundation for your career progression and is designed to prepare you for positions of increasing responsibility.

You should complete basic level courses, activities and standards before progressing to the next higher level.

At this level, you will be exposed to fundamental information technology and telecommunications procedures and the various functions such as automated acquisition, storage manipulation, control, display, switching, interchange, transmission, assurance, security, or reception of information. Rotation through structured on-the-job assignments among a variety of function offices and/or bureaus with IRM staff assigned will help establish you as a more versatile information technology or telecommunications professional. Development of basic communication, interpersonal and leadership skills are also essential.

The importance of Security and Information Assurance training cannot be overemphasized. Throughout their careers, Information Technology employees will require considerable technical, operational and managerial expertise to assure the integrity, confidentiality and availability of the information and information systems under their control.

You may be assigned Information Systems Security Officer (ISSO) duties and called upon to accept formal responsibility for the Information Assurance program in your organization. Information Assurance training is currently mandatory for employees assigned to serve as an ISSO for a system or site. Various levels of Information Assurance Awareness training will be mandatory for IT administrators and managers in the future.

*Note: Courses that have a series (e.g. 2210 or 391) next to them are appropriate for employees in that series. If no series is indicated, then the course is appropriate for employees in both series.*

	Recommended Courses	Suggested Courses
<b>Basic Level</b>	<p><b>Orientation</b>            PN125 Orientation for Civil Service Employees (for new State Department Employees)            PS800 Cyber Security Awareness (distance learning; required to use OpenNet Plus)</p>	<p>Select courses based on your series, specialization, job duties and work location. Also see the section on <i>Technical Training Resources</i> immediately following the Senior Level Training Continuum.</p>
	<p><b>Information Technology/ Telecommunications FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>YW141 Introduction to Telephone Security            YW203 Current Installation Practices (391)            YW259 Computer Systems Networking            YW260 XP Professional Administration (2210)            YW273 Accelerated Exchange or            YW243 Exchange 2000 for the Enterprise (2210)            YW245 Advanced Windows 2000 (2210)            YW276 Accelerated Windows 2003 (2210)            YW642 Desktop Systems (2210)            YW263 IT Disaster Recovery (2210)            TBD Active Directory 2003</p>	<p><b>Information Technology/ Telecommunications FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>YW142 Basic Telephone            YW230 Common LAN Outbound Telegram Release System Version 3.0 (CLOUT) (2210)            YW244 Wireless Systems Training (391)            YW261 Security+ (2210)            YW263 IT Disaster Recovery (391)</p>
	<p><b>Diplomatic Security Training Center (DSTC)</b></p> <p>IA201 Information Assurance/Systems Administrator (2210)</p>	<p><b>Diplomatic Security Training Center (DSTC)</b></p> <p>IA101 Information Assurance ISSO (2210)</p>
	<p><b>Graduate School, US Department of Agriculture or FasTrac Distance Learning Equivalent</b></p> <p>Computer Viruses, Hacking and Intrusion (2210)            Telecommunications: An Introductory Overview            Building Accessible Web Sites (in Compliance with Section 508) (2210)</p>	<p><b>Graduate School, US Department of Agriculture or FasTrac Distance Learning Equivalent</b></p> <p>Fundamentals of Computer Security for Federal Information Systems            Introduction to Information Security            Security in IT Applications (2210)            Introduction to Database and Database Design (2210)            Systems Analysis and Design: An Introduction (2210)            Software Testing – A Practical Approach (2210)            Teleprocessing and Data Communications Macromedia Flash: Introduction (2210)            Active Server Page (ASP) (2210)            HTML Programming Introduction (2210)            HTML Programming Intermediate (2210)            JAVA: Introduction (2210)            JAVA: Applications Development (2210)            XML for the Web (2210)            Cold Fusion Application (2210)            Server Programming (2210)</p>

	Recommended Courses	Suggested Courses
<b>Basic Level</b>	<p><b>End-User Training</b> FSI Classroom or FasTrac Distance Learning Equivalent</p> <p>PS218 OpenNet Plus and the Internet PS432 MS Word 2003 Level One PS498 Intro to MS Outlook 2003 PS418 Web Development Fundamentals (2210)</p>	<p><b>College or University Training:</b> Courses in area of specialization</p> <p><b>End-User Training</b> FSI Classroom or FasTrac Distance Learning Equivalent</p> <p>PS216 SIPRNet and Intelink-S PS280 MS Project 2000 Introduction PS284 CableXpress for End Users PS440 MS PowerPoint 2003 Level One PS450 MS Access 2003 Level One PS470 MS Excel 2003 Level One</p>
	<p><b>Communication/Interpersonal*</b> FSI Classroom or FasTrac Distance Learning Equivalent</p> <p>PA143 Customer Service Training PK240 Effective Listening and Speaking Skills</p> <p><b>Leadership and Management**</b> FSI</p> <p>PT129 Teambuilding</p>	<p><b>Communication/Interpersonal*</b> FSI Classroom or FasTrac Distance Learning Equivalent</p> <p>PK159 Drafting Correspondence</p> <p><b>Leadership and Management**</b> FSI</p> <p>PT251 Productively Managing Stress</p> <p>Take some distance learning courses through FSI's FasTrac Program. For a course catalog or to enroll, visit <a href="http://fsi.state.gov/fastrac">http://fsi.state.gov/fastrac</a> on the OpenNet.</p>
	<p><b>Recommended Rotational Assignments</b></p> <p>Select from among the following as appropriate:</p> <p>Bureau of Information Resource Management</p> <p>IRM/BPC/CST/LD – Liaison Division IRM/BPC/CST/SPS – Support Services Division</p> <p>IRM/OPS/ITI/LWS – Wireless Branch IRM/OPS/EML – E-Mail Branch IRM/OPS/MSO – Messaging Systems Division IRM/OPS/MSO/MSMC – Main State Messaging Center Office IRM/OPS/SIO – Systems Integration Office IRM/OPS/SIO/EOC – Mainframe Systems Office</p> <p>Assignment length varies according to needs</p>	<p><b>Suggested Developmental Activities</b></p> <p>Read your Bureau Performance Plan, Mission Performance Plans and the Department's Strategic Plan</p> <p>Read professional journals/magazines such as <i>Government Computer News</i>, <i>InfoWorld</i>, <i>MCP</i>, <i>Federal Computer Week</i></p> <p>Shadow a higher graded employee for a few days</p> <p>Read laws, regulations, and other guidance applicable to your specialization (e.g. 5 FAM, 12 FAM 500, 12 FAM 600, Federal Information Security Management Act, Government Paperwork Elimination Act, Section 508 of the Rehabilitation Act)</p>

	Recommended Courses	Suggested Courses
<b>Basic Level</b>		<p>As time permits: Attend workshops/seminars in the Washington D.C. area on professionally relevant topics (see attached Resources)</p> <p>Visit websites of professional associations</p> <p>Go on informal visits (individually or with your supervisor or co-workers) to meet counterparts in other federal agencies/organizations</p> <p>Visit the Career Development Resource Center</p>

\* Employees who are located outside of the Washington, D.C. metropolitan area may find it more cost effective to take equivalent courses from the Graduate School, USDA, colleges or universities or private vendors in their local area through the FSI External Training Program. Contact the FSI Registrar's Office at (703) 302-7145.

\*\* For a more comprehensive list of courses, see *The Leadership and Management Training Continuum*, <http://fsi.state.gov/fsi/lms/docs/LMSContinuum.pdf>

## Information Technology/ Telecommunications: Mid-Level

At the mid-level, specialization is emphasized in one or more of the specialties. You should expand your activities to include on-the-job rotational assignments, with the length of time you spend in each generally increasing. While specialization can be started during the basic level, you will

continue on in the mid-level moving towards one or more of the specialties. You should be developing your leadership, supervisory, team building and project management skills.

*Note: Courses that have a series (e.g. 2210 or 391) next to them are appropriate for employees in that series. If no series is indicated, then the course is appropriate for employees in both series.*

	Recommended Courses	Suggested Courses
<p><b>Mid-Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>Information Technology/Telecommunications FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>YW257 Managing a Windows 2000 Network (2210)                      YW260 XP Professional Administration (2210)                      YW262 LAN/WAN Administration in the DOS Environment (2210)                      YW263 IT Disaster Recovery (2210)                      YW267 CCNP Routing Technologies</p> <p><b>Diplomatic Security Training Center (DSTC)</b></p> <p>IA301 Information Assurance/Manager IT (2210)</p>	<p>Select courses based on your series, specialization, job duties and work location. Also see the section on <i>Technical Training Resources</i> immediately following the Senior Level Training Continuum.</p> <p><b>Information Technology/Telecommunications FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>YW252 Advanced Systems Management Server 2.0 (2210)                      YW253 System Administration for Microsoft SQL Server 7.0 (2210)                      YW257 Managing a Windows 2000 Network (391)                      YW261 Security+ (2210)                      YW262 LAN/WAN Administration in the LAN/DOS Environment (391)                      YW263 IT Disaster Recovery (391)                      YW264 CCNA Network Technology                      YW762 Certified Information System Security Professional Review Seminar</p> <p><b>Diplomatic Security Training Center (DSTC)</b></p> <p>IA101 Information Assurance/ISSO (2210)                      IA201 Information Assurance/Systems Administrator (2210)                      IA202 Information Assurance/System Administrator (GITM)</p>

	Recommended Courses	Suggested Courses
<p><b>Mid-Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>Graduate School, US Department of Agriculture or FasTrac Distance Learning Equivalent</b></p> <p>Computer Viruses Hacking and Intrusion            Fundamentals of IT Management and Capital Planning            Building Accessible Web Sites (in Compliance with Section 508 (2210))</p>	<p><b>Graduate School, US Department of Agriculture or FasTrac Distance Learning Equivalent</b></p> <p>Conducting IT Security and Controls Reviews in a Government Environment (2210)            Firewalls Technology            Firewalls and VPN Implementation            E-Government and E-Business Outlook and Future Trends            Managing Software Development with Metrics (2210)            Structured Systems Analysis and Design Workshop (2210)            Wireless Mobile Networks            Wireless Technology Seminar            ASP for Government Web Forms and Databases (2210)            Designing and Building Accessible Web Sites (in Compliance with Section 508) (2210)            Macromedia Flash: Advanced (2210)            Macromedia UltraDev 4.0 (2210)            Macromedia Fireworks (2210)            Internet/Web Client Server Programming (2210)            JAVA: Internet/ Network Programming (2210)            JavaScript Programming (2210)            XML Application Development for the Web (2210)            Making a Business Case for a Capital Investment</p>
	<p><b>National Defense University – Information Resources Management College</b></p> <p>Knowledge Management: Leveraging Intellectual Resources (2210)            Leadership for the Information Age</p>	<p><b>National Defense University – Information Resources Management College</b></p> <p>Assuring the Information Infrastructure            Authority to Operate: Information System Certification and Accreditation            Building an IT Business Case            Critical Information Systems Technologies            Data Management Strategies and Technologies: A Managerial Perspective (2210)            EGovernment            Enterprise Architectures for Managers            Services Planning for Improved Government Performance            Global Enterprise Networking and Telecommunications            Information Management Planning            Information Operations and National Security            Information Technology Capital Planning            Information Technology Project Management            Managing Information Security in a Networked</p>

	Recommended Courses	Suggested Courses
<p><b>Mid-Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>End-User Training</b>  <b>FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>PS280 MS Project 2000, Introduction to                      PS433 MS Word 2003 Level Two                      PS470 MS Excel 2003 Level One</p>	<p>Environment                      Netcentric Strategies                      Planning and Managing Enterprise Architecture Programs                      Strategic Management of Web Sites (2210)                      Transforming to eGovernment                      Security, Privacy, and Access Issues in eGovernment                      Strategies for Process Improvement</p> <p><b>College or University Training:</b>                      Courses in area of specialization</p> <p><b>End-User Training</b>  <b>FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>PS441 MS PowerPoint 2003 Level Two                      PS451 MS Access 2003 Level Two                      PS471 MS Excel 2003 Level Two                      PS420 Web Site Management Using FrontPage (2210)                      PS421 Web Site Management Using Dreamweaver (2210)</p> <p><b>Acquisition</b>  <b>FSI</b></p> <p>PA173 Contracting Officer Representative Update                      PA178 Becoming a Contracting Officer's Representative or                      PA296 How To Be a Contracting Officer Representative (distance learning)                      PA297 Purchase Card Self-Certification Training (self-study)                      PA222 Introduction to Simplified Acquisitions and Requisitions Overseas (self-study)                      PA291 How to Be a Certifying Officer (self-study)                      PA360 Introduction to Supply Chain Management (self-study)</p> <p><b>Defense Acquisition University (DAU), Inc. (MCI), Graduate School, US Department of Agriculture (USDA)</b></p> <p>Introduction to Federal Contracting (MCI) or                      Introduction to Government Contracting (ESI or USDA) or                      Contracting Overview (DAU distance learning)                      Contemporary Approaches to Acquisition in the Information Age (DAU)</p>

	Recommended Courses	Suggested Courses
<p><b>Mid-Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>Project Management FSI</b></p> <p>PT208 Managing State Projects</p>	<p>Writing Statements of Work (ESI) or Writing Performance Work Statements (MCI) or Writing Performance-Oriented Statements of Work (USDA)</p> <p>Information Technology Acquisition (MCI) or Information Technology Contracting (ESI) or Basic Information Systems Acquisition (DAU) Intermediate Information Systems Acquisition (DAU) Task Order Contracting (ESI) Evaluating a Contractor's Performance (MCI)</p> <p><b>Project Management ESI, MCI, USDA</b></p> <p>Aligning Project Management with Corporate Strategy (ESI)</p> <p>Project Management Applications in Information Technology (ESI) or Mastering IT Projects (MCI) or Managing Information Technology Projects (ESI)</p> <p>Defining and Managing IT Project Requirements (MCI) Requirements Analysis and Design (IT Software) (USDA)</p> <p>Systems Integration Project Management (ESI) or Managing Systems Integration Projects (MCI)</p> <p>Software Project Management (MCI or ESI) (2210)</p> <p>IT Project Risk Management (MCI)</p> <p>Software Risk Management (ESI) (2210)</p> <p>Cost Estimating for IT Projects (MCI)</p> <p>Quality for Project Managers (ESI) or Managing Project Quality (MCI)</p> <p>Managing Software Quality (ESI) or Software Quality Assurance (MCI) (2210)</p> <p>Software Testing for Better Project Management (ESI) (2210)</p> <p>Telecommunications Principles for Project Managers (USDA)</p> <p><b>FasTrac Distance Learning Project Management Courses</b></p> <p>SkillSoft</p> <p>Professional Project Management</p> <p>Project Management for IT Professionals</p> <p>Strategic Project Management for IT Projects</p> <p>Professional Project Management Fundamentals*</p> <p>Project Procurement Planning*</p> <p>Project Scope Management*</p> <p>Project Cost Management*</p> <p>Project Human Resource Management*</p>

	Recommended Courses	Suggested Courses
<p><b>Mid-Level</b> (see also courses at earlier levels if not yet taken)</p>	<p><b>Communication/Interpersonal*</b> <b>FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>PA123 Managing Customer Service PK241 Writing Effective Letters and Memos</p> <p><b>Graduate School, U.S. Department of Agriculture</b></p> <p>Briefing Techniques or Speaking with Confidence</p> <p><b>Leadership and Management**</b></p> <p>PT215 Team Leadership Workshop PT216 Seven Habits of Highly Effective People PK245 Basic Leadership Skills** PK246 Employee Relations or PT107 EEO/Diversity Awareness for Managers and Supervisors PT253 Negotiation Skills for Managers or PT502 International Negotiation: Arts and Skills</p>	<p>Project Quality Management* Project Communication Management* Project Integration Management* Project Risk Management*</p> <p>* PMBOK 2000 aligned – courses for PMI certification</p> <p>NetG Project Management Essentials Series Project Management Series Advanced Project Management Series Project Leadership Series</p> <p><b>Communication/Interpersonal*</b> <b>FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>PD520 Visual Aid Basics</p> <p><b>Graduate School, U.S. Department of Agriculture</b></p> <p>Clear Writing through Critical Thinking Writing for Results</p> <p><b>Leadership and Management**</b></p> <p>PT205 Performance Management Seminar PT206 Managing Change PT211 Coaching PT212 Creative Problem Solving Workshop PT213 Managing Conflict Productively PT217 Running Effective Meetings Workshop PT252 Managing Up: Working Effectively with Your Manager PA137 Management Controls Course or PA164 Management Controls Workbook (self-study)</p> <p>Take some distance learning courses through FSI's FasTrac Program. For a course catalog or to enroll, visit <a href="http://fsi.state.gov/fastrac">http://fsi.state.gov/fastrac</a> on the OpenNet.</p>

	Recommended Courses	Suggested Courses
<p><b>Mid-Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>Recommended Rotational Assignments</b> Select from among the following as appropriate:</p> <p>Bureau of Information Resource Management</p> <p>CIO/IA – Information Assurance Division</p> <p>IRM/BPC/CST/SPS – Support Services Division IRM/BPC/EAP – Enterprise Architecture and Planning Division IRM/BPC/EDIP – E-Diplomacy Division IRM/BPC/RG – Policy and Regulations Division</p> <p>IRM/EX/SYS – Systems Division</p> <p>IRM/OPS/ENM – Enterprise Network Management Division IRM/OPS/ITI/LWS – Wireless B IRM/OPS/MSO – Messaging Systems Division IRM/OPS/MSO/MSMC – Main State Messaging Center Office IRM/OPS/PMA – Program Management and Analysis Division IRM/OPS/SIO - Systems Integration Office</p> <p>Bureau IT Office</p> <p>Bureau of Diplomatic Security</p> <p>DS/CIS/IST – Analysis and Certification Division DS/SI/ACD – Information Security Programs Division</p> <p>Assignment length varies according to needs</p>	<p><b>Suggested Developmental Activities</b></p> <p>Read your Bureau Performance Plan, Mission Performance Plans and the Department's Strategic Plan</p> <p>Read professional journals/magazines such as <i>Government Computer News, InfoWorld, MCP, Federal Computer Week</i></p> <p>Shadow a higher graded employee for a few days</p> <p>Read laws, regulations and other guidance applicable to your functional area (e.g. 5 FAM, 12 FAM 500 12 FAM 600, Federal Information Security Management Act, Government Paperwork Elimination Act, Section 508 of the Rehabilitation Act)</p> <p>Volunteer for a Department Task Force</p> <p>Apply for a Career Development Program such as the USDA Executive Leadership Program for Mid-Level Employees or a Congressional Fellowship***</p> <p>Apply for a long-term training opportunity or an OPM Residential Seminar***</p> <p>Apply for the Civil Service to Foreign Service Hard-to-Fill Program, a TDY, or excursion tour to an overseas embassy or consulate***</p> <p>Assist with a Secretarial, Presidential, or First Lady visit to a foreign country</p> <p>As time permits: Attend workshops/seminars/conferences on professionally relevant topics (see attached resources)</p> <p>Go on informal visits (individually or with your supervisor or co-workers) to meet counterparts in other federal agencies/organizations</p>

\* Employees who are located outside of the Washington, D.C. metropolitan area may find it more cost effective to take equivalent courses from the Graduate School, USDA, colleges or universities or private vendors in their local area through the FSI External Training Program. Contact the FSI Registrar's Office at (703) 302-7145.

\*\* For a more comprehensive list of courses, see *The Leadership and Management Training Continuum*, <http://fsi.state.gov/fsi/lms/docs/LMSContinuum.pdf> Please note that PK245, Basic Leadership Skills, is a mandatory course for GS-13 employees.

\*\*\* More information follows after this section on *Training for Specific Series and Job Functions*

## Information Technology/ Telecommunications: Senior Level

By the time you teach the senior level of the information technology or telecommunications career field, you should have advanced through a career progression that has given you in-depth knowledge in the functional areas and knowledge across a broad spectrum of the information technology or telecommunications field. At this

level, you will need to continue to acquire and develop your leadership and management skills. You should review and select leadership and management courses for this level and those that you may not have taken at the previous levels.

*Note: Courses that have a series (e.g. 2210 or 391) next to them are appropriate for employees in that series. If no series is indicated, then the course is appropriate for employees in both series.*

	Recommended Courses	Suggested Courses
<p><b>Senior Level</b> (see also courses at earlier levels if not yet taken)</p>	<p><b>Information Technology/Telecommunications FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>Courses not taken at the mid-level as desired</p>	<p>Select courses based on your series, specialization, job duties and work location. Also see the section on <i>Technical Training Resources</i> immediately following the Senior Level Training Continuum.</p> <p><b>Information Technology/Telecommunications FSI Classroom or FasTrac Distance Learning Equivalent</b></p> <p>Courses not taken at the mid-level as desired</p>
	<p><b>Diplomatic Security Training Center (DSTC)</b></p> <p>IA303 Information Assurance/Senior Manager (2210)</p>	<p><b>Diplomatic Security Training Center (DSTC)</b></p> <p>IA201 Information Assurance/System Administrator (2210)</p>
	<p><b>Graduate School, U.S. Department of Agriculture</b></p> <p>Courses not taken at the mid-level as desired</p>	<p><b>Graduate School, U.S. Department of Agriculture</b></p> <p>Courses not taken at the mid-level as desired</p>
	<p><b>End-User Training</b></p> <p>Courses not taken at the mid-level as desired</p>	<p><b>End-User Training</b></p> <p>Courses not taken at the mid-level as desired</p>
	<p><b>National Defense University – Information Resources Management College</b></p> <p>Leadership for the Information Age</p>	<p><b>National Defense University–Information Resources Management College</b></p> <p>Developing Enterprise Security Strategies, Guidelines and Policies Enterprise Resource Planning Systems: Issues in Strategic Planning</p>

	Recommended Courses	Suggested Courses
<p><b>Senior Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>Project Management</b> <b>FSI</b></p> <p>PT209 Executive Overview to Managing State Projects</p> <p><b>Communication/Interpersonal*</b> <b>Graduate School, US Department of Agriculture</b></p> <p>Advanced Briefing Techniques</p> <p><b>Leadership and Management**</b></p> <p>PT133 Senior Executive Threshold Seminar** PT207 Intermediate Leadership Skills** PT210 Advanced Leadership Skills** PT213 Seminar for Program Directors PT221 Four Roles of Leadership PT224 Influence By Design</p>	<p>Information Technology Acquisition for the CIO Measuring Results of Organizational Performance Strategic Human Capital Management Issues The Changing World of the CIO (2210)</p> <p><b>Acquisition</b> <b>Defense Acquisition University (DAU),</b> <b>ESI International (ESI),</b> <b>Management Concepts Inc. (MCI)</b></p> <p>Advanced Information Systems Acquisition (DAU) Advanced Software Acquisition Management (DAU) (2210) Patents, Technical Data and Computer Software (ESI) Best Value Source Selection Using Tradeoffs (MCI) or Source Selection: The Best-Value Process (ESI) Vendor Selection and Management (ESI) Contract Pricing (ESI) Incentive Contracts (MCI or ESI) Government Business Case Development (ESI)</p> <p><b>Project Management</b> <b>ESI, MCI</b></p> <p>Managing Complex Projects (ESI) or Mastering Technical Challenges and Issues (MCI distance learning) Rapid Assessment and Recovery of Troubled Projects (ESI) Managing Global Projects (ESI) or Managing Multiple Projects and Geographically Dispersed Projects (MCI)</p> <p><b>Communication/Interpersonal*</b> <b>FSI</b></p> <p>PY126 Speechwriting and Presentation Skills</p> <p><b>Leadership and Management**</b></p> <p>PD529 Strategic Planning and Performance Measurement (distance learning) PT218 Leading a Diverse Workforce PP515 Advanced Negotiations</p>

	Recommended Courses	Suggested Courses
<p><b>Senior Level</b></p> <p>(see also courses at earlier levels if not yet taken)</p>	<p><b>For GS-15 and above:</b>                      PT300 Leader as Facilitator                      PT301 Appearing Effective in the Media                      PT302 Testifying Before Congress                      PT303 Crisis Leadership                      PT304 Deputy Assistant Secretary as Leader                      PT305 Executive as Coach and Mentor</p> <p><b>Recommended Rotational Assignments</b></p> <p>Select from among the following as appropriate:</p> <p>Bureau of Information Resource Management</p> <p>CIO – Office of the Chief Information Officer                      CIO/IA – Information Assurance Division</p> <p>IRM/OPS/PMA – Program and Management Analysis Division</p> <p>DISA – Defense Information Systems Agency</p> <p>NIST – National Institute of Standards and Technology, U.S. Department of Commerce</p> <p>NSA – National Security Agency</p> <p>The White House</p> <p>Other Executive Branch Agency</p> <p>Assignment length varies according to needs.</p>	<p><b>General Services Administration (GSA) STAR</b> (Strategic and Tactical Advocates for IT Results) - A one-week residential seminar focusing on program and project management, leadership, security, technology, government and capital planning.</p> <p><b>FSI – Other</b></p> <p>PP204 Congressional Relations</p> <p>Take some distance learning courses through FSI's FasTrac Program. For a course catalog or to enroll, visit <a href="http://fsi.state.gov/fastrac">http://fsi.state.gov/fastrac</a> on the OpenNet.</p> <p><b>Suggested Developmental Activities</b></p> <p>Apply for the Advanced Management Program (NDU-IRMC)</p> <p>Volunteer for a Departmental Task Force</p> <p>Apply for a Career Development Program such as the USDA Executive Potential Program, a Congressional Fellowship, or the Council for Excellence in Government Fellows Program***</p> <p>Apply for the Civil Service to Foreign Service Hard-to-Fill Program, a TDY, or excursion tour to an overseas embassy or consulate***</p> <p>Attend an annual professional conference</p>

\* Employees who are located outside of the Washington, D.C. metropolitan area may find it more cost effective to take equivalent courses from the Graduate School, USDA, colleges or universities or private vendors in their local area through the FSI External Training Program. Contact the FSI Registrar's Office at (703) 302-7145.

\*\* For a more comprehensive list of courses, see *The Leadership and Management Training Continuum*, <http://fsi.state.gov/fsi/lms/docs/LMSContinuum.pdf> Please note that PT207, Intermediate Leadership Skills, is a mandatory course for GS-14 employees, PT210, Advanced Leadership Skills is a mandatory course GS-15 employees and PT133, Senior Executive Threshold Seminar, is a mandatory course for new Senior Executive Service (SES) employees.

\*\*\* More information follows after this section on *Training for Specific Series and Job Functions*

## Technical Training Resources

The following is a list of professional organizations and public and private vendors that provide training courses, workshops, conferences and/or publications of interest to employees in this occupational family. The list is not meant to be all inclusive nor is it an endorsement of any of the vendors.

We encourage you to browse the websites below and take advantage of the opportunities they provide to develop new skills or enhance current skills.

Acronym	Organization	Website
AMA	American Management Association	<a href="http://www.amanet.org">http://www.amanet.org</a>
ATC	KEI Advanced Training Center	<a href="http://www.keicorp.com/atc">http://www.keicorp.com/atc</a>
CIO Council	Chief Information Officers Council	<a href="http://www.cio.gov">http://www.cio.gov</a>
CIO University	Chief Information Officers University	<a href="http://www.gsa.gov">http://www.gsa.gov</a>
CIW		<a href="http://www.ciwcertified.com">http://www.ciwcertified.com</a>
	CompTIA	<a href="http://www.comptia.com">http://www.comptia.com</a>
DAU	Defense Acquisition University	<a href="http://www.dau.mil">http://www.dau.mil</a>
DISA	Information Assurance Support Environment Defense Information Systems Agency	<a href="http://iase.disa.mil/eta/index.html">http://iase.disa.mil/eta/index.html</a>
ESI	ESI International	<a href="http://www.esi_int.com">http://www.esi_int.com</a>
	Gartner Group	<a href="http://www.gartner.com">http://www.gartner.com</a>
GAO	General Accounting Office	<a href="http://www.gao.gov">http://www.gao.gov</a>
	Global Knowledge (American Research Group – ARC)	<a href="http://www.globalknowledge.com">http://www.globalknowledge.com</a>
IBM <a href="http://www.ibm.com">ibmedu</a>	IBM Corporation Education and Training	<a href="http://www.training.ibm.com/">http://www.training.ibm.com/</a>
ICI	ICI Systems, Inc.	<a href="http://www.trainingdoneright.com">http://www.trainingdoneright.com</a>
IRMC	National Defense University Information Resources Management College	<a href="http://www.ndu.edu/irmc">http://www.ndu.edu/irmc</a>
ISC2	International Information Systems Security Certification Consortium	<a href="http://www.isc2.org">http://www.isc2.org</a>

<b>Acronym</b>	<b>Organization</b>	<b>Website</b>
ISOC	Internet Society	<a href="http://www.isoc.org">http://www.isoc.org</a>
IWA	International Webmasters Association	<a href="http://www.iwanet.org">http://www.iwanet.org</a>
	Learning Tree International	<a href="http://www.learningtree.com">http://www.learningtree.com</a>
MCI	Management Concepts, Incorporated	<a href="http://www.managementconcepts.com">http://www.managementconcepts.com</a>
	Meta Group	<a href="http://intranet.state.gov/metagroup">http://intranet.state.gov/metagroup</a>
	Microsoft	<a href="http://www.microsoft.com/">http://www.microsoft.com/</a>
	Mitel	<a href="http://www.mitel.com">http://www.mitel.com</a>
	Motorola	<a href="http://www.motorola-wls.com">http://www.motorola-wls.com</a>
NIST	National Institute for Standards and Technology U.S. Department of Commerce	<a href="http://csrc.nist.gov/publications/nistpubs/index.html">http://csrc.nist.gov/publications/nistpubs/index.html</a>
NSA	National Security Agency	<a href="http://www.iaevents.com">http://www.iaevents.com</a>
NIETP	National INFOSEC Education and Training Program	<a href="http://www.nsa.gov">http://www.nsa.gov</a>
	New Horizons	<a href="http://www.newhorizons.com">http://www.newhorizons.com</a>
PMI	Project Management Institute	<a href="http://www.pmi.org">http://www.pmi.org</a>
STAR	Strategic and Tactical Advocates for Results (STARS) Program General Services Administration	<a href="http://www.gsa.gov">http://www.gsa.gov</a>
	SANS Institute	<a href="http://www.sans.org">http://www.sans.org</a>
	TechnKnowledge	<a href="http://www.techknowledge.com">http://www.techknowledge.com</a>
TRA	Telecommunications Research Association	<a href="http://www.tra.com">www.tra.com</a>
USDA	Graduate School, U.S. Department of Agriculture	<a href="http://www.grad.usda.gov">http://www.grad.usda.gov</a>
	Wave Technologies, International	<a href="http://www.wavetech.com">http://www.wavetech.com</a>
	U.S. Army Signal Center School of Information Technology, Ft. Gordon	<a href="https://uit.gordon.army.mil/login.html">https://uit.gordon.army.mil/login.html</a>